

USER'S MANUAL

AM-220



Digital Recorder

INDEX

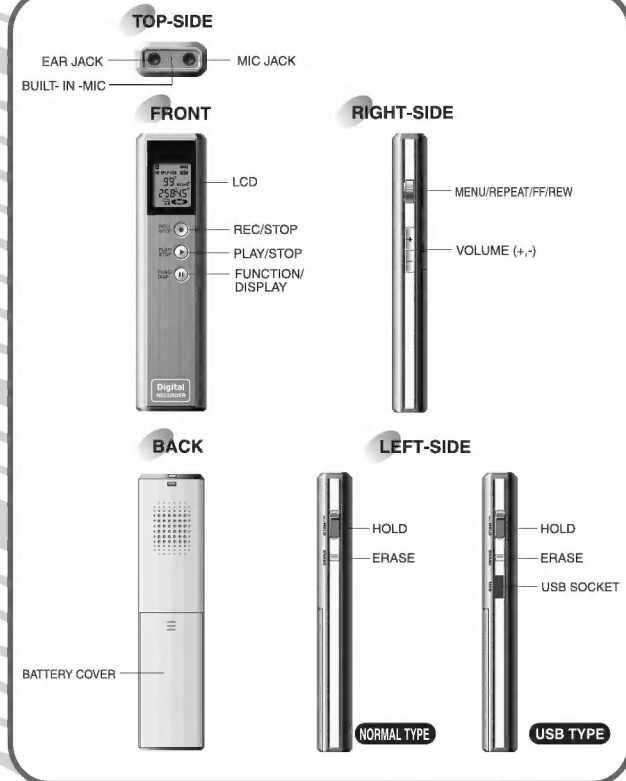
■ Feature	2
■ Name of each part	3
■ LCD part	4
■ Preparation for operating	5
-Installing Batteries	5
-Setting the Clock	6
■ Operating Voice Recorder	7
-Recording Messages	7
-Playing back Messages	8
-Erasing Messages	8
-Hearing aid function	10
-Setting the Menu	11
-Convenient recording function	12
-Convenient playback function	13
-Editing Messages	16
-Connecting with an external appliance	18
■ Cautions	21
■ Trouble Shooting	22
■ Specification	

Feature

- **COMPACT SIZE**
lets you easily carry with its slim and portable size.
- **FLASH MEMORY**
retains all data even without power.
- **AUTOMATIC POWER OFF**
automatically turns off the power if you do not press any button.
- **TIME STAMP & REMAINING RECORDING TIME DISPLAY**
displays Recording time & Remaining time.
- **RECORDING MODE**
lets you record with selected recording mode among HQ, SP and LP.
- **LONG TIME RECORDING**
records long time message on SP or LP mode.
- **VOS(Voice Operated recording System)**
records a message only with voice and other actual sound.
- **PLAY BACK SPEED CONTROL**
controls a speed of playing back by selecting the speed among 30% faster, normal speed and 30% slower.
- **REPEAT PLAY**
plays a part of each message successively.
- **SCAN PLAY**
plays only fore 5 seconds of each message successively.
- **EXTERNAL In/Out CONNECTION**
lets you record with another appliances mutually.
- **EL BACK LIGHTING**
lets you check LCD display in dark place.
- **CONVENIENT EDIT FUNCTION**
divides, combines, moves and adds recording messages.
- **TEL FUNCTION**
records the telephone conversation automatically.
- **HEARING AID FUNCTION**
lets you hear amplified voice on the Hearing Aid Mode.
- **Managing Folder & File(D folder as a Portable USB driver)**

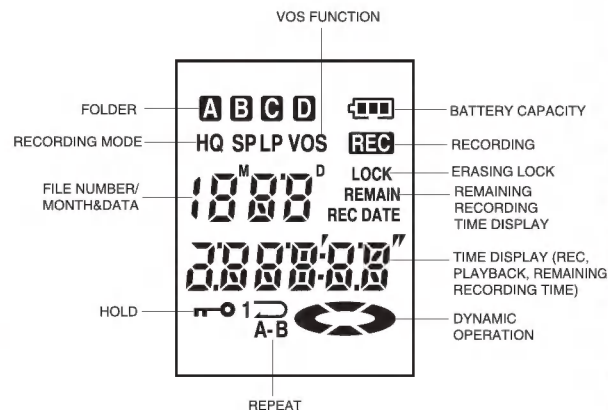
NORMAL TYPE	records Max. 400 messages. records messages into each divided A, B, C, D folder
USB TYPE	1. records Max. 300 messages. records messages into each divided A, B, C folder. saves any format of data file into D folder from a PC, so that you can use the D folder of the recorder as a Portable USB driver. (refer to Manager operation.) 2. Available to listen to any kind of TEXT files (EX. E.mail message, internet bible, novels, internet news papers, memo etc) on the recorder. Converts any format of text files to speech file, so that you can download the speech files to the recorder and use it as a portable audio player.

Name of each part



Name of part

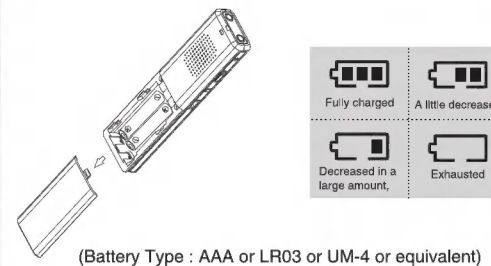
■ LCD PART



Preparation for operating

■ INSTALLING BATTERIES

Installing and replacing batteries should be done at stop position.
1. Open the battery cover and place 2 AAA typed alkaline batteries in the compartment and then replace the cover.



■ Battery life time ("AAA" ALKALINE)

Battery	At recording mode	At speaker playback (VOL.10)	At earphone playback (VOL.10)	Telephone mode
"AAA" Alkaline	SP, LP : 1080 min HQ : 900 min	SP, LP : 630 min HQ : 550 min	SP, LP : 1195min HQ : 930 min	7920 min




※ Different Battery type and Volume level can cause different Battery Life Time

♣ Using battery

- For managing battery life time efficiently, the unit will be automatically shut off if you do not press any button for more than 1 minute. And then the unit converts to CLOCK mode.
- Please let HOLD switch ON position when you don't use the unit.









Preparation for operating

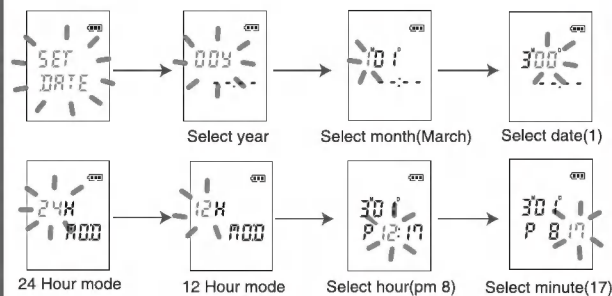
■ Power On/Off


Set HOLD button OFF and press PLAY/STOP() or FUNC/DISP() or REC/STOP() button shortly. The unit will be powered on.
With long pressing each button, the concerned operation will start
If the unit doesn't operate for more than 1 minute, it converts to CLOCK mode.

■ Setting the Clock

♣ lets you set the clock when you replace batteries. When you replace batteries, ALL DISPLAY will light on LCD and SET DATE will be displayed. Press MENU button for a long time.








1. Set Year : When "00Y" is blinking, select year by  jog key. and then press MENU() button.
 2. Set Date/Month : Select the blinking part of LCD by  jog key and press MENU() button.
 3. Set 12H/24H MODE : Select one mode from blinking "12H" and "24H" by  jog key and then press MENU() button.
 4. Set time : Select the blinking part of LCD by  jog key and press MENU() button.
- e.g) To set 8 : 17 PM on March 1st, 2000, operate as follows.









♣ To change the clock, press MENU() button for more than 1 second on Clock or Stop mode.

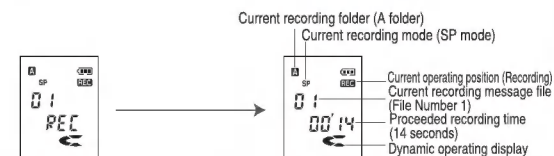
Operating Recorder

■ Button Functions



- PLAY/STOP() : Plays and Stops a message playing back.
- FUNC/DISP() : Selects Function and Display condition.
- REC/STOP() : Records and Stops a message recording.
- MENU/REPEAT() : Selects MENU, SEARCH, REPEAT, FF, REW function.
- VOLUME() +, - : Controls a volume.
- ERASE() : Erases recorded messages.
- HOLD() : Prevents mis-operation by setting Hold mode.


■ Recording Messages

1. Slide HOLD() button to OFF position and press one button among PLAY/STOP(), REC/STOP() and FUNC/DISP(), so that the unit gets POWER ON.
(Press REC() button for more than 1 second on Clock Mode, the recording will also start.)
2. Let MIC toward sound source and press REC/STOP() button.
Recording File will be added and recording will be continued.



Press Rec/ Stop button, REC will be displayed for 3 seconds and proceeded recording time will be displayed.

3. To stop recording, press REC/STOP() button one more time.
(If you press REC/STOP() button within 2 seconds after starting recording mode, recording will be stopped and canceled.)

♣ Press PLAY/STOP() button just after recording, the last recording file will be played.

♣ Do test recording in advance to prevent from failing recording.

Operating Recorder

- ♣ If MEMORY is exhausted or file number gets more than 100 messages in one folder, "FULL" will be displayed and recording won't be continued.



Messages get 100 in one folder.

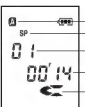


Memory is exhausted with 2 message files

- ♣ VOLUME level won't be adjusted during recording.

■ Playing back Messages

1. Let HOLD() button OFF position and press one button among PLAY/STOP(), REC/STOP() and FUNC/DISP() button, so that the unit gets POWER ON.
2. Select FILE number with \uparrow/\downarrow jog key.
(Press PLAY/STOP() button for more than 1 second on Clock Mode, the playing back will also start.)
3. At CONTINUOUS PLAYBACK ON mode, all files in a folder will be played back till the end of the concerned folder continuously. At CONTINUOUS PLAYBACK OFF mode, just the current playing file will be played and stopped (refer to setting MENU)
4. Adjust VOLUME level with VOLUME() button.
5. To stop playing back, press PLAY/STOP() button one more time.



Current playing folder (A folder)
Current playing mode (SP mode)
Current playing message file (File Number 1)
Proceeded playing time (14 seconds)
Dynamic operating display

- ♣ During playing back messages, MENU won't be operated.

■ Erasing Messages

<Erasing a single message>

1. Select a FILE with \uparrow/\downarrow jog key at STOP mode and press ERASE() button for more than 3 seconds. ERASE will be blinking on LCD for checking the message. The fore and hind part of erasing file will be played for 5 seconds.
2. Press ERASE() button one more time, selected file will be erased and a following FILE No. will be changed as current FILE No.

Operating Recorder



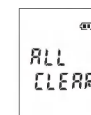
<Erasing all messages in a FOLDER>

1. Select FOLDER with MENU() and \uparrow/\downarrow jog key.
2. Press both ERASE() and REC/STOP() buttons for more than 3 seconds, ALL ERASE will be blinking on LCD.
3. And then press ERASE() button one more time, so that all messages in the selected folder will be erased. The locked message won't be erased.



<FORMAT>

1. Press ERASE() and REC/STOP() button for 7 seconds at the same time, ALL CLEAR displays. And press ERASE() button shortly, all data files of the recorder will be deleted.




An erased message can't be restored.
At FORMAT mode, all data even including locked file will be erased.



Operating Recorder

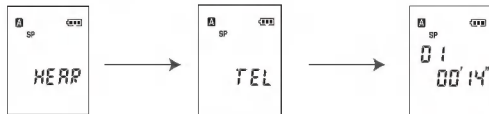
■ Hearing Aid Function

1. Changing to Hearing Aid mode

- Press FUNC/DISPLAY () button shortly at stop position so that the unit will be changed to the Hearing Aid Mode.
- EARPHONE will be used as a Hearing Aid by inserting earphone into EAR terminal of the unit.

2. Canceling Hearing Aid Mode





- To cancel the Hearing Aid Mode, press FUNC/DISP () button twice or PLAY/STOP () button shortly.



3. Volume adjusting

- The sound of Hearing Aid can be adjusted with VOLUME () button.

4. Recording on the Hearing Aid Mode

- To record, press REC () button on the Hearing Aid Mode.
- Press REC () button one more time after recording and the mode changes to the Hearing Aid mode.
- To pause during recording, press FUNC/DISPLAY () button once.
- To stop pausing, press FUNC/DISPLAY () button one more time.








Reference

- ♣ Function Key operation order: VOICE→HEAR→TEL→VOICE
- When the batteries are low, LO Batt appears. Replace the batteries.





Operating Recorder

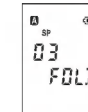
■ Setting the Menu

- Slide HOLD () button to OFF position and press PLAY/STOP (), REC/STOP () or FUNC/DISP () button shortly. The unit will be powered on.
- Press MENU () button shortly, MENU will be displayed FOLDER->RECORD MODE->MIC SENSE->VOS->LOCK->Conti in order. Each MENU () button pressing converts the mode and you can select any mode with  jog key.



● Select Folder

NORMAL TYPE



Max. 100 voice recording files record into each divided A, B, C, D folder. Press MENU () button shortly to convert into FOLD Mode and select A,B,C,D folder with  jog key.



USB TYPE



Max. 100 voice recording files record into each divided A, B, C folder. Press MENU () button shortly to convert into FOLD Mode and select A,B,C folder with  jog key.

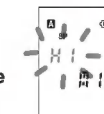
● Select Recording Mode

Press MENU () button shortly on Folder mode to convert into Recording Mode and select HQ, SP, LP with  jog key.





● Select Mic Sense

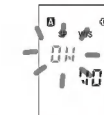
Press MENU () button shortly to convert into MIC Mode and select HI, NOR, LO with  jog key.



HI:at silent place, NOR: Normal, LO:at noisy place



● Select VOS(Voice Operated Recording System)

Recording will be proceeded only with voice and other actual sound. Press MENU () button shortly on MIC mode to convert into VOS Mode and select ON, OFF with  jog key.





Operating Recorder

File Erasing Lock

If you lock on the important message, the locked message won't be erased even with erasing key. Press MENU() button shortly on VOS mode to convert into LOCK Mode and select ON, OFF with  jog key.






Continuous Playback

Set CONTINUOUS PLAYBACK to ON, all files in a folder will be played back till the end of the concerned folder continuously. Press MENU() button shortly on LOCK mode to convert into CONTI Mode and select ON, OFF with  jog key.




Convenient Recording Function

<PAUSE>

Press FUNC/DISP() button during recording, recording will be paused. Press FUNC/DISP() button once again or REC/STOP() button, PAUSE will be released. (If PAUSE mode continues for more than 30 minutes, the unit will be AUTO OFF and converted to CLOCK mode.)

<DISPLAY FUNCTION>

Press FUNC/DISP() button for more than 1 second RECORDING STATUS -> CURRENT TIME->REC DATE->REMAIN TIME will be displayed in order.


<REC MONITOR>

During recording, you can monitor recording message by inserting earphone into earphone jack.

<INDEX ADDITION>

Slide up  jog key during mode, FILE number will be added and recording will be continued.

<MIC SENSE >

To control MIC sensitivity, you can select HI /NOR/LO MIC SENSE with MENU () button.


<VOS>

Recording will be proceeded only with voice and other actual sound.

Operating Recorder




CONVENIENT PLAYBACK FUNCTION

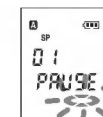
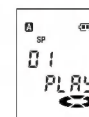
< Volume Adjustment>

Controls volume level from 0 to 20 with VOLUME () button on playing back mode.




<PAUSE>

Press FUNC/DISP() button during PLAYBACK, PLAYBACK will be paused. Press FUNC/DISP() or PLAY/STOP() button PAUSE will be released. (If PAUSE mode continues for more than 30 minutes, the unit will be AUTO OFF and converted to CLOCK mode.)



<DISPLAY FUNCTION>

Press FUNC/DISP() button for more than 1 second during PLAYBACK, PLAYBACK STATUS-> CURRENT TIME-> REC DATE-> REMAIN TIME will be displayed successively. (If there's no recorded message, REC DATE won't be displayed)



FUNC/DISP()




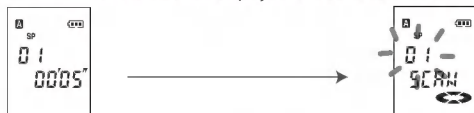
FUNC/DISP()






Operating Recorder

<SCAN PLAY>



Press PLAY/STOP() button for more than 1 second on stop mode, the fore part of each file in current folder will be played for 5 seconds in order.



<REW & FF>


Slide up  jog key shortly on PLAYBACK mode, the previous and afterward recording message will play back. Slide up  jog key for a long time on PLAYBACK mode, the first 10 seconds of message will play quickly and then the remaining part of message will play slowly. Slide up  jog key for more than 1 second, the message playing will be skipped some part.

<FILE REPEAT>

Press MENU() button for more than 1 second during PLAYBACK, current playing file will be repeated. And press PLAY/STOP() button, FILE REPEAT will be canceled.



<A-B SECTION REPEAT>

Press MENU () button one time shortly during PLAYBACK mode, Point A will be selected. And please press MENU button one more time. Point B will be selected. And then A-B section will be played repeatedly. (If you don't select point B after selecting point A, A-END section will be played repeatedly.)




(selecting point A)



(selecting point B)


Operating Recorder

<ADDITIONAL RECORDING>

Press REC/STOP() button for more than 1 second on PLAYBACK mode, "Add-R" will be displayed and a recording file will be added just after current playing message file.





<RESUME PLAY>

If you re-play a message just after pressing STOP button, PLAYBACK will be proceeded continuously from the pre-stopped time. (If another button except for PLAY/STOP() button is pressed at STOP position, the fore part of the last recording file will be played.)

<PLAY SPEED CONTROL>

To control the playing speed, press PLAY () button for more than 1 second. The unit will be on SPEED Mode.

To cancel the SPEED Mode, press PLAY() button shortly. Select NOR, FAST(+30%), SLOW(-30%) Mode with  jog key on SPEED Mode.



(Press Play button for more than 3 seconds)

Select "SLOW", "FAST" with  jog key.

Operating Recorder

■ EDITING MESSAGES

Press MENU () button for a long time on Pause Mode, Div->Join->Move->OFF will be displayed in order.

1. Dividing a Message File

During playing back, press FUNC/DISP() button to convert into PAUSE Mode. And press MENU() button for a long time at PAUSE Mode, OFF/DIV will be displayed. Select ON with jog key and press MENU () button. The concerned part will be divided into next file number will be increased.

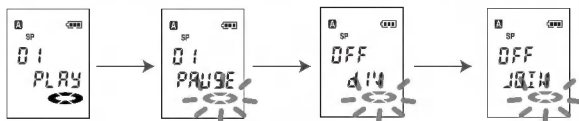


ⓘReference

- ♣ If memory or file number is FULL, file dividing can't be proceeded.
- ♣ The recording dates of the two divided files are the same.
- ♣ With the edited message file, a playing time difference can be about 0.5 second.
- ♣ The file less than 5 seconds recording can't be divided.

2. Combining Message files

Select Join Mode, let the fore message file play from 2 files you want to combine and press FUNC/DISP() Press MENU() button twice (first for a long time and second shortly), OFF/JOIN will be displayed. Select ON with jog key and press MENU () button. Message files will be combined and the following file number will be decreased.



Operating Recorder

3. Moving a Message File

Press MENU() button for a long time on Pause Mode, the unit turns to "DIV" mode. Press MENU() button for a long time on Pause Mode, JOIN->MOVE->OFF will be displayed in order. Select Move ON with jog key and press MENU key (). And then select a folder (A,B,C,D) with jog key. Press MENU key() and confirm the moving a file.



ⓘReference

- ♣ REC DATE will be effective for fore file number.
- ♣ If LOCK is set-up on one file out of 2 files, LOCK will be effective for the combined file.
- ♣ Files with different REC MODE can not be combined each other.
- ♣ The last message file can't be combined.



1. All editing operation will be operated only on PAUSE Mode. If memory or file number is FULL, DIV->JOIN->MOV can't be operated and "CAN NOT" will be displayed.
2. Do not replace batteries on DIV->JOIN->MOV operation. File can't play back properly.



Operating Recorder

4.FILE EDIT

1. Editing a part of file

- 1) Divide the part(fore, mid, hind) which you want to edit.
- 2) Erase the file which you want to throw away.
- 3) If necessary, combine message files.

2. Adding new recording file

- 1) Divide file at the part where you want to add recording file.
- 2) Operate Add-R in the fore part of divided message file.
- 3) Combine files, again.

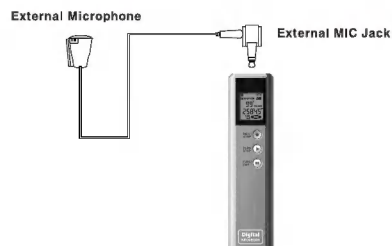
3. Inserting file

- 1) Divide file at the part where you want to insert.
- 2) Move the file which you want to insert into between the divided files.
- 3) Combine files twice.

■ CONNECTING WITH EXTERNAL APPLIANCE

1. Recording with external microphone

If you connect external microphone into MIC JACK, built-in mic will be excluded and you can record with optional external microphone.
(You can clip external microphone onto your lapel, so that you can take free action. Also, you can record with much better sound quality by approaching sound source.)

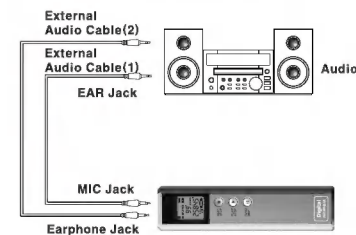


Operating Recorder

2. In case of recording from external appliance into VR unit(audio cable1)
Connect optional audio cable into both EARPHONE of external appliance and MIC of unit and press REC button. (Recording will be proceeded with L-ch mono and you can check recording condition with earphone.)



3. In case of recording from VR unit into external appliance(audio cable 2)
Connect optional audio cable into both EAR of VR unit and MIC or external INPUT of external appliance and press both PLAY/STOP(⏮) button of VR unit and press REC button of external appliance.
(Do test-recording in advance and you can't adjust volume level with VOLUME button of the voice recorder unit.)

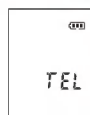
Connect to MIC IN or External INPUT Jack



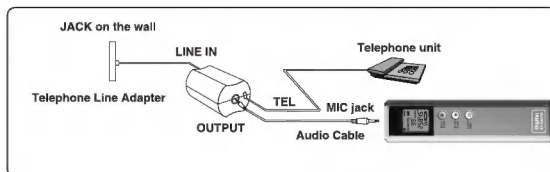
Operating Recorder

4. Automatic Telephone Recording

Connect optional Tel-line adapter into Tel-line as following picture and the recording for telephone conversation is started automatically.
(Press FUNC/DISP () button twice on STOP Mode, TEL Mode will set.
Press FUNC/DISP() button one more time, TEL Mode will be canceled.)
(Function Key operation order :VOICE→HEAR→TEL→VOICE)



※ Recording will continue till 20 seconds after hanging up the phone.



Not available for Digital Telephone and the telephone with different MODULAR JACK.

Cautions

■ Cautions in Operating

- ⦿ Do not drop the product and give it a shock. It could cause troubles.
- ⦿ Do not place the product at the following condition and/or places :
 - Where it is full of high temperature above 60 degrees.
 - At a dusty place.
 - Near the heaters or from any type of heat sources.
 - In a car with windows closed, especially in summer.
 - At a heavy damp place like a bathroom
- ⦿ Any excessive force on the LCD display could cause damages to it and to overall LCD functions.
- ⦿ A magnetic card such as a credit card or a subway commutation ticket may not be working any longer once it is placed on or close to the speaker.
- ⦿ The seller holds no liability for any damages caused by misuse of the product and any claims from the third party.
- ⦿ The seller holds no liability for any lost messages which are caused by repair or any other troubles.

■ Cautions in Using Battery

- ⦿ Do not have a short circuit, disassemble, heat or put battery in the fire. And do harm to your eyes, also could cause fever and the rupture of a doctor.
- ⦿ Do not use different kind of battery.
- ⦿ Take the battery off when you don't use for a long time.

■ Cautions for Safety

- ⦿ Take battery off when there are malfunction caused by smoke and heat.
- ⦿ Do not use in the place where electronic product's operation is prohibited like inside of airplane.
- ⦿ Do not use in driving and walking, since any accident could be happened.

Cautions

Check following articles first if you find any malfunctional matter.

In case of no LCD display

Check1 Did you check the battery capacity? ➡ Replace batteries.

Check2 Are both polarities of the battery loading in right Way?

➡ Load batteries in each right +/- position.

In case of no recording

Check1 Isn't it at Hold position?

➡ Set Hold switch off.

Check2 Isn't the message number or file FULL? ➡ Erase unnecessary message.

Check3 Did you check the battery capacity? ➡ Replace batteries.

In case of no Playback

Check1 Isn't it at Hold position?

➡ Set Hold switch off.

Check2 Isn't there any recorded message? ➡ Check the recording message.

Check3 Did you check the battery capacity? ➡ Replace batteries.

In case of no sound from speaker

Check1 Isn't your VOLUME at 0 (Zero) position? ➡ Adjust the VOLUME button.

Check2 Isn't your Earphone inserted in? ➡ Take the Earphone Jack OFF.

In case of no sound from Earphone

Check1 Isn't your VOLUME at 0 (Zero) position? ➡ Adjust the VOLUME

Check2 Is your Earphone properly inserted in? ➡ Insert the Earphone Jack completely.

In case of displaying "LO BATT"on EDIT operation ➡ Replace batteries.

Specification

- For improvement of product, specifications & design can be changed without previous notice

ITEM		SPECIFICATION
Model Number		AM-220
Recording Time (HQ)Mode		612 minutes
Recording Time (SP)Mode		918 minutes
Recording Time (LP)Mode		2004 minutes
USB TYPE	Voice(A,B,C)	3 Folders x100 Files
	Computer File Storage(D)	1 Folder
NORMAL TYPE	Voice(A,B,C,D)	4 Folders x100 Files
Output Power Speaker		200mW , (8Ω)
Output Power Earphone		3 mW, (32Ω)
Earphone		3.5 ∅ Mono
Ext Mic./Line In		3.5 ∅ Mono Jack
Battery life time		About 1080MIN/900MIN at SP.LP/HQ Recording Mode(No Monitoring) About 1195MIN/930MIN at SP.LP/HQ Earphone Play at Volume 10 About 630MIN/550MIN at SP.LP/HQ Speaker Play at Volume 10
R/P Frequency response		SP , LP : 500 Hz - 3500 Hz / HQ : 500~5100 Hz
Power Source		DC3V With "AAA"(LR03, UM-4) x 2 pcs
Weight		38g (without Battery)
Dimension		28.2 x111x13.8 mm (Wx H xD)
Basic Accessories (NORMAL TYPE)		Manual , Earphone , 2 Batteries
Basic Accessories (USB TYPE)		Manual , Earphone , 2 Batteries , USB Cable , Install CD
Optional Accessories		Pin type Microphone , Audio Cable ,Telephone Line Adapter